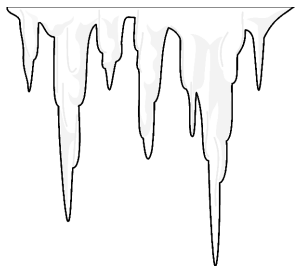


## During a Winter Storm or Extreme Cold: When You're Outside



Being outside during winter can be dangerous even when a storm is not occurring. Exposure to cold temperatures poses a substantial danger during winter months. Prolonged exposure to the cold can cause frostbite, hypothermia, or even death. Persons most susceptible to cold are infants and the elderly.

### Caught Outside During a Storm

If you are ever caught outside during a storm, follow the steps below:

- Seek shelter immediately. If no shelter is nearby, prepare a lean-to, wind-break, or snow cave for protection from the wind.
- Cover all exposed parts of the body.
- Build a fire for heat and to attract attention.
- Do not eat snow as it will lower your body temperature. You must melt it first.
- Do not walk looking for help unless it is visible within 100 feet; it is too easy to become disoriented in the storm.

### Dressing for Extreme Cold

- Wear layers of loose-fitting, light-weight, warm clothing. Wool and silk make good insulators. Coats should be tightly woven, water-repellent, and hooded. Remove layers to avoid overheating, perspiration, and subsequent chill.
- Wear a hat that covers your ears. Half of body heat is lost through the top of the head!
- Cover the mouth with scarves to protect lungs from the cold air.
- Mittens, snug at the wrist, are better than gloves. Wear mittens that allow your fingers to move freely.
- Socks and shoes should fit loosely, and shoes should be water-repellent.
- Keep clothing dry to prevent loss of body heat.

This document is IFAS publication DH 1706.

Adapted by UF/IFAS from:  
*Winter Storm Preparedness Series*, Illinois Emergency Management Agency and *Hypothermia Safety Rules*, National Weather Service; Newport, NC



## Understanding Wind Chill

One of the first steps towards protecting yourself during extreme cold is becoming educated about wind chill. Wind chill is how cold it feels outside when the effects of temperature and wind speed are combined. Strong wind combined with a temperature of just below freezing can have the same effect as a still-air temperature about 35 degrees colder.

The wind chill factor is based on the rate of heat loss from exposed skin caused by the combined effects of the wind and cold. As the wind increases, heat is carried away from the body at an accelerated rate, driving down body temperature. The wind chill shows how cold the wind makes exposed flesh feel and is a good way to determine the potential of frostbite or hypothermia.

Remember, wind chill temperatures apply only to people and other living things. If the temperature is 35°F and the wind chill is 10°F, objects such as pipes or cars will only cool to 35°F.

## Wind Chill Chart

Wind		Temperature (°F)									
Calm	35	30	25	20	15	10	5	0	-5	-10	-15
5	32	27	22	16	11	6	0	-5	-10	-15	-21
10	22	16	10	3	-3	-9	-15	-22	-27	-34	-40
15	16	9	2	-5	-11	-18	-25	-31	-38	-45	-51
20	12	4	-3	-10	-17	-24	-31	-39	-46	-53	-60
25	8	1	-7	-15	-22	-29	-36	-44	-51	-59	-66
30	6	-2	-10	-18	-25	-33	-41	-49	-56	-64	-71
35	4	-4	-12	-20	-27	-35	-43	-52	-58	-67	-74

Read right and down from the calm-air line. For example, a temperature of 0°F combined with a 20 mph wind, has an equivalent cooling effect of -39° F.

## Avoiding Overexertion

Although most people know to avoid overexerting themselves during times of extreme heat, they do not realize that they must do the same in extreme cold. Shoveling heavy snow, pushing a car, or walking in deep snow are examples of overexertion. The strain from the cold and the hard labor could cause a heart attack. Sweating could lead to a chill and even hypothermia. Be careful not to overexert yourself in extreme cold.

## Frostbite

Frostbite is a severe reaction to cold exposure of the skin that can permanently damage fingers, toes, the nose, and ear lobes. Symptoms are loss of feeling and a white or pale appearance to the skin. If these symptoms are apparent, seek medical help immediately. If medical help is not available, slowly rewarm the affected areas. If the victim is also showing signs of hypothermia, always warm the body core before the extremities.

## Hypothermia

Hypothermia sets in when the body loses heat faster than it produces it. The body's temperature, normally 98.6°F, begins to fall and vital organs fail. When body temperature falls below 78°F, death is likely.



There are two types of hypothermia—acute and chronic. Acute hypothermia is usually caused by sudden immersion in cold water which can cool the body 25 times faster than air. Chronic or long-onset hypothermia can develop with exposures of 12 hours to as much as several days. It occurs when you work in temperatures below 50°F and your body is wet from rain, sea spray, or perspiration. Air below freezing does not need to be present for hypothermia to occur.

As a rule, when body temperature drops below 95°F, seek medical help. If none is available, begin the following procedure:

- Begin warming the person slowly. Always warm the body core/trunk first.
- Do not warm extremities (arms and legs) first. Doing so drives the cold blood toward the heart and can lead to heart failure.
- If needed, use your own body heat to warm the victim.
- Get the person into dry clothing, and wrap them in a warm blanket covering the head and neck.
- Do not give the person alcohol, drugs, or any hot beverage or food; warm broth is better.

Here are the several levels of hypothermia. Become familiar with the symptoms and treatment for each.

### Mild Hypothermia

Body temperature is 97°F and lower. Symptoms are: shivering, cold hands and feet, alert but some numbness, clumsiness and pain from cold. Recommended treatment: Prevent further heat loss and let body rewarm. Give warm sweet drinks—no alcohol or caffeine. Keep victim warm for several hours.



### Moderate Hypothermia

Body temperature is 93°F and lower. Shivering may decrease or stop. Treatment: Apply gentle heat to stabilize pressure. Offer drinks only after victim is fully conscious. Have victim checked by a doctor.

### Severe Hypothermia

Body temperature is 90°F and lower. Shivering decreases or stops. Other symptoms include: loss of mental clarity, abnormal behavior, increased muscular rigidity. Victim appears drunk; may resist help. Semiconscious or unconscious. Treatment: Avoid jarring victim; handle gently. Ignore victim's pleas to be left alone. Lay victim on back, keep immobile. Apply mild heat.

### Critical Hypothermia

Body temperature is 82°F and lower. Victim is unconscious; may appear dead. Symptoms include: little or no apparent breathing or pulse; cold, bluish-gray skin; dilated eyes; very rigid body. Treatment: Assume patient is revivable; do not give up. Look, listen, and feel for breathing and pulse for two minutes. If there is any at all, do not give CPR. If none, begin CPR. Medical help is imperative.